WT-8112U
RADIO-CONTROLLED SOLAR CLOCK

INSTRUCTION MANUAL

Contents

Languages	Page

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1

TABLE OF CONTENTS

FEATURES:

RADIO-CONTROLLED SOLAR CLOCK:

LCD1 display
LCD2 display
Solar panel

Wall Mount Location
Function keys
Battery cover
Foldable stands

2

- WWVB Radio controlled time with manual time setting
- Time display: hour, minute, second
- 12/24h time format display
- Alarm setting with snooze function
- Calendar display
- Weekday display (4 languages to choose from: English, Spanish, French, German)
- Time zone setting
- Daylight savings time ON/OFF option (DST)
- Solar mode setting
- Indoor temperature display in ºF/ ºC selectable
- Indoor humidity display in RH%
- Primary Alkaline battery or Solar Rechargeable Alkaline battery selection
- Low battery indicator
- Wall mount or freestanding

TO INSTALL / REPLACE BATTERY
The solar clock can use either the included 1 x alkaline rechargeable battery (charged by solar panel) or 1 x AA alkaline battery (non-rechargeable; not included).

WARNING! "Do Not recharge the included solar rechargeable batteries in any device other than the product they came with. Recharging the solar rechargeable batteries in battery chargers or other third party devices will damage the batteries and charging device"

INITIAL SETUP (USING INCLUDED SOLAR RECHARGEABLE BATTERY FROM THE FACTORY)

1. Open battery compartment on the back of the Clock and make sure that the battery switch under the battery compartment is positioned to the left.
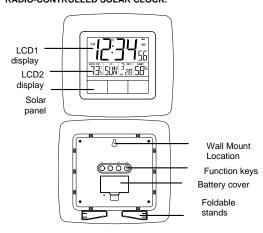   If it is not, please slide the switch to the left before proceeding.
2. Locate the battery insulator tab and gently pull to remove it.
3. Next, slide the battery switch to the SOLAR position. The clock should activate.
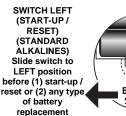4. Wait for WWVB signal.

3

SWITCH LEFT (START-UP / RESET) (STANDARD ALKALINES)
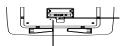Slide switch to LEFT position before (1) start-up / reset or (2) any type of battery replacement

SWITCH RIGHT (SOLAR OPERATION) (SOLAR-RECHARGEABLE BATTERY)
Slide switch to RIGHT position once solar-rechargeable battery are inserted and insulator tab is removed

BATTERY SWITCH

BATTERY COMPARTMENT
NOTE: This clock requires 1 battery. There is a "filler battery shell" in the top spot. Please leave this filler in place.

WARNING
Do NOT recharge the included solar-rechargeable battery outside of this product because it will damage the battery and other charging devices.

Use a non-rechargeable alkaline battery:

1. Remove the included solar rechargeable AA battery from the compartment.
2. Use the switch to the left to select the alkaline battery.
3. Insert 1 x AA Alkaline battery into the compartment, observing the correct polarity (see marking inside battery compartment.
4. Replace battery cover
5. **IMPORTANT:** If the solar panel is facing a permanent strong light source (eg., on top of a refrigerator with halogen lamp), please switch the clock to alkaline battery mode to avoid over-charging re-chargeable alkaline battery.

DO NOT SET THE CLOCK.

Please help in the preservation of the environment and return used batteries to an authorized depot.

4

SETUP AFTER CHANGING/REPLACING THE BATTERY
1. After powering up the solar clock, all LCD segments will light up briefly and it will show the time (12:00), indoor temperature, date, and indoor humidity.
2. Next the WWVB time code reception will automatically start. This reception typically takes 10 minutes in good conditions. If after 10 minutes the WWVB time has not been received, use the "SET" key to enter the set-up mode to manually set the Time, Time Zone and Date (see manual settings below). The clock will continue to search for WWVB each hour between 12am and 6am. When the clock has successfully connected with WWVB, it will override the manually set time and date.

   NOTE: When changing the battery:
   1. Be careful that it does not spring free from the contacts.
   2. Press any button 20 times with the battery removed.
   3. Always wait at least 10 minutes after removing battery before re-inserting; otherwise start up problems may occur.

WWVB RADIO CONTROLLED TIME
The NIST radio station, WWVB, is located in Ft. Collins, Colorado and transmits the exact time signal continuously throughout the United States at 60 kHz. The signal can be received up to 2,000 miles away through the internal antenna in the atomic clock. However, due to the nature of the Earth's Ionosphere, reception is very limited during daylight hours. The atomic clock will search for a signal every night when reception is best. The WWVB radio station derives its signal from the NIST atomic clock in Boulder, Colorado. A team of atomic physicists continually measures every second of every day to an accuracy of ten billionths of a second a day. These physicists have created an international standard, measuring a second as 9,192,631,770 vibrations of a Cesium 133 atom in a vacuum. This atomic clock regulates the WWVB transmitter.

After 15 minutes the WWVB tower icon in the clock display will start flashing in the top center of the LCD. This indicates the clock has detected a radio signal and is trying to receive it. When the time code is received, the WWVB tower becomes permanently lit and the time will be displayed.

If the tower icon flashes, but does not set the time or the WWVB tower does not appear at all, then please take note of the following:

- Recommended distance to any interfering sources like computer monitors or TV sets is a minimum of 6 feet (2 meters).
- Within ferro-concrete rooms (basements, superstructures), the received signal is naturally weakened. In extreme cases, please place the unit close to a window and/ or point its front or back towards the Fort Collins, Colorado, transmitter.
- During nighttime, the atmospheric disturbances are usually less severe and reception is possible in most cases. A single daily reception is adequate to keep the accuracy deviation below 1 second.

NOTE: In case the solar atomic clock is not able to detect the WWVB-signal (disturbances, transmitting distance, etc.), the time can be manually set (please refer to notes on **Manual time setting**).

FUNCTION KEYS
The radio-controlled clock has four easy to use keys:

SET key : To enter into the set mode for the following functions: time zone, DST ON/OFF (daylight saving time), language, hour, minute, year, month, date, weekday, 12/24h time format display, ºF/ ºC temperature unit, and solar mode

+ key : To change any values in manual set mode

ALM key : To enter into the alarm set mode
To activate/deactivate the alarm

SNZ key : To activate the snooze function during alarm
To exit manual setting modes

LCD SCREEN DESCRIPTIONS
The radio-controlled clock's LCD is divided into 2 sections and once the batteries are inserted, all the segments will light up briefly before displaying the information for time, date, indoor temperature and indoor humidity.

MANUAL SETTINGS
NOTE: If the radio-controlled clock has already successfully received the WWVB time signal and displays the correct time and date, then the Manual settings can be skipped.

After completion of the above described procedures in "**Set-up**" the manual setting modes can be entered by pressing the **SET** key. The following settings can now be programmed:

- Time zone setting
- DST ON/OFF
- Language display setting
- Manual time setting
- Year setting
- Month setting
- Date setting
- Weekday setting
- 12/24h time format display
- ºF/ºC temperature setting
- Solar mode setting

TIME ZONE
The time zone can be set between the +/–12-hour range in LCD2. To do this:

1. The time zone (LCD2) will start flashing (Default setting "EST -5"). Select the desired time zone by pressing and releasing the **+** key.

   Time zone settings: -12, -11, -10, ALA, PST, MST, CST, EST, ATL, -3, -2, -1, 0, +1, +2...+12. (Default: EST)

2. Press and release the **SET** key to enter the **"DST Setting"**.

DST (daylight saving time)
1. The ON digit will start flashing on LCD1. Set the DST ON or OFF by pressing the **+** key.
2. Press and release the **SET** key to enter the **"Language Setting"**.

NOTE: The DST default is "ON", meaning that the WWVB will automatically change the time according to Daylight Saving Time in the spring and fall. For areas that do not recognize DST changes (Arizona and parts of Indiana) turn the DST "OFF".

LANGUAGE
The weekdays can be displayed in LCD1 with the pre-set languages: English (US), Spanish (E), French (F), and German (d):

1. Set the desired language for the weekday display in LCD1 by use of the **+** key.
2. Press and release the **SET** key to enter the mode **"Manual Time Setting"**.

SET THE TIME MANUALLY
In case the radio-controlled clock is not able to detect the WWVB-signal (disturbances, transmitting distance, etc.); the time can be manually set. The clock will then work as a normal Quartz clock.

NOTE: the time will be displayed with an additional **"PM"** for the time from 12:00 noon until 11:59.

NOTE: The unit will still try to receive the signal every day despite it being manually set. When it does receive the signal, it will change the manually set time into the received time. During reception attempts the WWVB tower icon will flash. If reception has been

unsuccessful, then the WWVB tower icon will not appear but reception will still be attempted the following hour.

WWVB time reception takes place from 12:00 am through 6:00 am each day (attempts WWVB reception every full hour within this time frame). When the time signal is received for example at 1:00 am, the radio-controlled clock will not attempt to receive the WWVB signal for the remaining hours until 6:00 am. Therefore, the next signal attempt will take place between 12:00 am and 6:00 am the next day. The other times WWVB reception takes place, are upon setup and after manual time set exiting mode. Reception is generally not possible during daylight hours due to the interference of the sun.

After following the steps above (Time zone setting, DST ON/OFF, Language display setting):

1. The hour digits will start flashing on LCD1.
2. Set the desired hours by pressing and releasing the **+** key followed by pressing the **SET** key.
3. Now the minute digits will start flashing.
4. Set the desired minutes by pressing and releasing the **+** key. If the **+** key is held, the units will increase by 5.
5. Press and release the **SET** key to move to the **"Year"** setting.

YEAR
The year can be selected sequentially from 2001 to 2029 and will then start over again (default setting 2009). The year will only appear in the manual setting mode.
1. The year digits will start flashing (only last 2 digits) on LCD2. Select the desired year by use of the **+** key.
2. Press and release the **SET** key to switch to the **"Month Setting"**.

MONTH
1. The month digit on LCD2 will start flashing (Default setting 1). Set the desired month by use of the **+** key.
2. Press and release the **SET** key to move to the mode **"Date Setting"**.

DATE
1. The digits for the date will start flashing on LCD2 (Default setting 1). Set the desired date by use of the **+** key.

NOTE: The date can only be set in conjunction with the selected month. For example, it is not possible to set the date 30 if the month of February is selected.
2. Press and release the **SET** key to move to "**Weekday setting**".

WEEKDAY
1. The weekday symbols will be displayed on LCD2 in the pre-set language and flashing. Set the desired weekday by use of the **+** key.
2. Press and release the **SET** key to enter the mode **"12/24h Time Format Setting"**.

12/24H TIME FORMAT
The time format can be display in 12h or 24h (Default setting "12h").
1. The digits **"12"** or **"24"** will start flashing on LCD1. By use of the **+** key select 12h or 24h time format display.
2. Press and release the **SET** key to enter the mode **"ºC or ºF Temperature Setting"**.

°C OR °F TEMPERATURE
The temperature setting can be set to either to ºF or ºC (Default setting °F).
1. The characters **"°F"** or **"°C"** will start flashing on LCD1. By use of the **+** key select **"°F"** for temperature display in degrees Celsius or **"°C"** for degrees Fahrenheit.
2. Press and release the **SET** key to enter the mode **"Solar Mode Setting"**.

SOLAR MODE
The Solar Mode is used for saving the power consumption of the rechargeable battery (Default setting ON):

1. The characters **"ON"** or **"OFF"** will start flashing on LCD1. By use of the **+** key select **"ON"** or **"OFF"** to set the solar mode.
2. Press and release the **SET** key to exit the setting mode and switch back to the normal display mode.

   If the solar mode setting is ON:
   - LCD will automatically turn OFF automatically if the environment is too dark

- LCD will automatically turn ON automatically if the environment is bright enough; the surrounding environment brightness is checked every 5 seconds
- No information will be displayed when the LCD is OFF, but all the settings and operations will remain, except for the temperature and humidity measurements.

If the solar mode setting is OFF:
- LCD will remain ON constantly.

EXIT THE MANUAL SETTING MODES
- To return to the normal display mode from anywhere in manual setting mode simply press the **SNZ** key anytime.

- If no keys are pressed for at least 15 seconds in setting mode, the radio-controlled solar clock will automatically switch back to normal display mode.

ALARM
To enter into the alarm setting mode:
1. Hold the **ALM** key for 4 seconds. The hour digits start flashing.
2. Press and release the + key to set the hour.
3. Press and release the **ALM** key to set the minutes. The minute digits start flashing.
4. Press and release the + key to set the minutes.
5. Press and release again the **ALM** key to exit the Alarm setting mode or wait for 15 seconds automatic timeout.

TO DEACTIVATE THE ALARM:

 Alarm icon (((•))) (ON)

The alarm will be automatically ON when the alarm time is set. To deactivate the alarm (OFF), press and release once the **ALM** key in normal mode display. The alarm icon will disappear the alarm is now off.

SNOOZE SETTING
The snooze can only be activated during alarm time for a snooze duration of 10 minutes by pressing the **SNZ** key on the back of the clock.
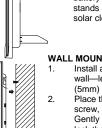
POSITIONING THE RADIO-CONTROLLED SOLAR CLOCK:
Before permanently mounting, ensure that the radio-controlled solar clock is able to receive WWVB signals from the desired location. Also, extreme and sudden changes in temperature will decrease the accuracy of the solar clock, and changes in elevation will result with inaccurate temperatures readings for the next 12 to 24 hours. These changes will require a 12 to 24 hour wait before obtaining reliable data.

There are two possible ways to mount the solar clock:
- use of the foldable table stands, or
- wall mounting

FOLDABLE TABLE STANDS

 The foldable table stands legs are located on the backside. Unfold the stands out, below the battery compartment. Once the foldout table stands are extended, place the radio-controlled solar clock in an appropriate location.

WALL MOUNTING
1. Install a mounting screw (not included) into a wall—leaving approximately 3/16 of an inch (5mm) extended from the wall.
2. Place the radio-controlled solar clock onto the screw, using the hanging hole on the backside. Gently pull the radio-controlled clock down to lock the screw into place.
NOTE: Always ensure that the radio-controlled clock locks onto the screw before releasing.

TROUBLESHOOTING:

Problem:	The LCD is OFF.
Solution:	1) Move the solar clock to a brighter environment. 2) Check that the solar panel is not covered. 3) Replace the battery if using alkaline battery. 4) Enter program menu and turn Solar Mode OFF (this is a power saving feature).
Problem:	No reception of WWVB signal
Solution:	1) It may help reception to face the front of the radio-controlled clock in the general direction of Ft. Collins, Colorado. 2) Wait overnight for signal. 3) Be sure the radio-controlled clock is at least 6 feet (2 meters) from any electrical devices, i.e. TV sets, computers, or other radio controlled clocks. 4) Remove batteries for five minutes, reinsert and leave the unit alone overnight without pressing any keys.
Problem:	Hour is incorrect (minute and date are correct).
Solution:	1) Be sure the correct time zone and daylight saving time is selected.
Problem:	"OFL" appears in the indoor temperature section of the LCD
Solution:	1) Move the radio-controlled clock to an area with warmer or cooler surrounding temperature. Current surrounding temperatures are outside measuring range. Batteries.
Problem:	"00" appears in the in humidity section of the LCD.
Solution:	1) Remove the battery from the unit for ten minutes, Press any button 20 times with battery out then reinsert it again.
Problem:	The clock appears to be locked up or displays partial segments.

Solution:	Remove the battery, slide the battery switch to BATTERY and reinsert the the battery. If you are using a rechargeable battery, you can then slide the battery switch to SOLAR.

CARE AND MAINTENANCE:
- Avoid placing the unit in areas prone to vibration and shock as these may cause damage.
- Avoid areas where the unit can be exposed to sudden changes in temperature, i.e. direct sunlight, extreme cold and wet/moist conditions as these will lead to rapid changes which reduce the accuracy of readings.
- When cleaning the LCD and casing, use a soft damp cloth only. Do not use solvents or scouring agents.
- Do not submerge the unit into water.
- Immediately remove all low powered batteries to avoid leakage and damage. Replace only with new battery of the recommended size.
- Do not make any repairs to the unit. Please return it to the original point of purchase. Opening and tampering with the unit may invalidate the warranty.

SPECIFICATIONS:

Temperature measuring range
Indoor: 14.1°F to 139.8°F with 0.2°F resolution (-9.9°C to +59.9°C with 0.1°C resolution; "OFL" displayed if outside this range)

Temperature checking interval
Indoor: every 60 seconds

Humidity measuring range
Indoor : 20% to 95% with 1% resolution
("—" displayed if temperature is OFL; "19%" displayed if below 20%, "96%" displayed if above 95%)

Temperature checking interval
Indoor: every 60 seconds

Power consumption
Alkaline rechargeable Battery:
1 x AA, 1.5V (included), rechargeable by solar cell
Rechargeable Alkaline battery life:
18 – 60 months, depending on usage
Primary Alkaline battery:
1 x AA, 1.5V battery (not included)
Primary Alkaline battery life: about 24 months

Dimensions (L x W x H)
Solar clock: 9.18" x 1.12" x 8.52"

Low battery indicator:
RX - Low battery indicator is displayed on the LCD when the battery voltage is low.

WARNING! "Do Not recharge the included solar rechargeable batteries in any device other than the product they came with. Recharging the alkaline rechargeable batteries in battery chargers or other third party devices will damage the batteries and charging device"

IMPORTANT: If the solar panel is facing a permanent strong light source (eg., on top of a refrigerator with halogen lamp), please switch the clock to alkaline battery mode to avoid over-charging re-chargeable alkaline battery.

WARRANTY INFORMATION
La Crosse Technology, Ltd provides a 1-year limited warranty on this product against manufacturing defects in materials and workmanship.

This limited warranty begins on the original date of purchase, is valid only on products purchased and used in North America and only to the original purchaser of this product. To receive warranty service, the purchaser must contact La Crosse Technology, Ltd for problem determination and service procedures. Warranty service can only be performed by a La Crosse Technology, Ltd authorized service center. The original dated bill of sale must be presented upon request as proof of purchase to La Crosse Technology, Ltd or La Crosse Technology, Ltd's authorized service center.

La Crosse Technology, Ltd will repair or replace this product, at our option and at no charge as stipulated herein, with new or reconditioned parts or products if found to be defective during the limited warranty period specified above. All replaced parts and products become the property of La Crosse Technology, Ltd and must be returned to La Crosse Technology, Ltd.

Replacement parts and products assume the remaining original warranty, or ninety (90) days, whichever is longer. La Crosse Technology, Ltd will pay all expenses for labor and materials for all repairs covered by this warranty. If necessary repairs are not covered by this warranty, or if a product is examined which is not in need or repair, you will be charged for the repairs or examination.

The owner must pay any shipping charges incurred in getting your La Crosse Technology, Ltd product to a La Crosse Technology, Ltd authorized service center.

Your La Crosse Technology, Ltd warranty covers all defects in material and workmanship with the following specified exceptions: (1) damage caused by accident, unreasonable use or neglect (including the lack of reasonable and necessary maintenance); (2) damage occurring during shipment (claims must be presented to the carrier); (3) damage to, or deterioration of, any accessory or decorative surface; (4) damage resulting from failure to follow instructions contained in your owner's manual; (5) damage resulting from the performance of repairs or alterations by someone other than an authorized La Crosse Technology, Ltd authorized service center; (6) units used for other than home use (7) applications and uses that this product was not intended or (8) the products inability to receive a signal due to any source of interference.

This warranty covers only actual defects within the product itself, and does not cover the cost of installation or removal from a fixed installation, normal set-up or adjustments, claims based on misrepresentation by the seller or performance variations resulting from installation-related circumstances.

LA CROSSE TECHNOLOGY, LTD WILL NOT ASSUME LIABILITY FOR INCIDENTAL, CONSEQUENTIAL, PUNITIVE, OR OTHER SIMILAR DAMAGES ASSOCIATED WITH THE OPERATION OR MALFUNCTION OF THIS PRODUCT. THIS PRODUCT IS NOT TO BE USED FOR MEDICAL PURPOSES OR FOR PUBLIC INFORMATION. THIS PRODUCT IS NOT A TOY. KEEP OUT OF CHILDREN'S REACH.

This warranty gives you specific legal rights. You may also have other rights specific to your State. Some States do no allow the exclusion of consequential or incidental damages therefore the above exclusion of limitation may not apply to you.

For warranty work, technical support, or information contact:

La Crosse Technology
2817 Losey Blvd. S.
La Crosse, WI 54601

Online: www.lacrossetechnology.com/support

17